

***Strongylopus* Tschudi, 1838 (Amphibia, Anura): request for the designation under the plenary powers of a type-species in agreement with current usage**

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A detailed analysis shows that, as a result of Opinion 713 (1964) of the International Commission on Zoological Nomenclature, the nominal genus *Strongylopus* Tschudi, 1838 does not have at present a type-species, and that the possible designations of type-species available under the Rules would result in nomenclatural problems. The ICZN is therefore asked to use its plenary powers to designate for this genus a type-species in agreement with current usage

Note. — This paper was submitted on 8 September 1980 to the Secretary of the International Commission on Zoological Nomenclature for publication in the *Bulletin of zoological Nomenclature*, but, despite repeated requests since then, has still not been published in this journal. The problem it raised has therefore remained unresolved, which is unfortunate, especially when one considers that, since then, several papers and checklists mentioning the generic name *Strongylopus* have been published (CLARKE, 1981, DUBOIS, 1981 a, 1981 b, 1987, FROST, 1985; DUELLMAN & TRUEB, 1986), and others are in progress. This paper is therefore published here as it was submitted, except that a few more recent bibliographic references have been incorporated.

(1) After having long been considered a subjective synonym of the Amphibian generic name *Rana* Linnaeus, 1758, the name *Strongylopus* Tschudi, 1838 was resurrected as a valid generic name by VAN DIJK (1966). Since then it has been used as a valid generic (VAN DIJK, 1971, 1972; CHANNING & VAN DIJK, 1976; CHANNING, 1979; CLARKE, 1981; FROST, 1985; DUELLMAN & TRUEB, 1986) or subgeneric (DUBOIS, 1981 a, 1981 b, 1987) name by some authors, while others (PASSMORE & CARRUTHERS, 1979) still considered it as a synonym of *Rana*. It is likely that this name will remain in use, at least to designate a subgenus of the genus *Rana* s.l. However, evidence is below presented that the nominal genus *Strongylopus* Tschudi, 1838 does not at present have a type-species, and that the possible designations of type-species available under the Rules would result in nomenclatural problems. The Commission is therefore requested to use its plenary powers to designate a type-species for this nominal genus in agreement with current usage.

(2) The generic name *Strongylopus* was created by TSCHUDI (1838 : 38, 78-79) for a single nominal species, "*Rana fasciata* Boie". As was shown by PARKER & RIDE (1962), BOIE

(1832 : 62) credited the name *Rana fasciata* to BURCHELL (1824 : 32). Therefore the type-species of *Strongylopus* at its creation was *Rana fasciata* Burchell, 1824 by monotypy.

(3) As a result of PARKER & RIDE's (1962) application and after the comments of SMITH (1963) and POYNTON (1963) about it, the Commission (Opinion 713 ; ANONYMOUS, 1964) decided to suppress the name *Rana fasciata* Burchell, 1824, as well as all other uses of the combination *Rana fasciata* prior to that by SMITH (1849), and to place the name *Rana fasciata* Smith, 1849 on the *Official List of Specific Names in Zoology*.

(4) It is clear that the generic name *Strongylopus*, coined in 1838, cannot have as its type-species by monotypy a nominal species created in 1849. Furthermore, TSCHUDI (1838) based his genus *Strongylopus* on specimens in the Leiden Museum which presumably belonged to the species *Rana grayi* Smith, 1849 and not to *Rana fasciata* Smith, 1849 (see PARKER & RIDE, 1962). In any case, both nominal species *Rana fasciata* and *Rana grayi* date from SMITH's (1849) paper, and cannot be the type-species of *Strongylopus* by original monotypy ; they cannot either be considered as originally included in this genus, at least not as from TSCHUDI's (1838) work. The genus *Strongylopus* is however available as of TSCHUDI (1838), since based on a diagnosis. The only nominal species originally included in this genus having been suppressed by the Opinion 713, the result is the same as if this genus had been created without any nominal species included. Therefore the first author to have associated available specific names to the name *Strongylopus* has fixed the originally included species of this genus

(5) DUMÉRIEL & BIBRON (1841 : 389) mention the combination *Strongylopus fasciatus* in the synonymy of *Rana fasciata*. This work is still anterior to the work of SMITH (1849) and, following the Opinion 713, the name *Rana fasciata* is still not available at that time.

As was noted by PARKER & RIDE (1962), SMITH (1849) had relied upon DUMÉRIEL & BIBRON's (1841) work to define the species *Rana fasciata*. He had restricted the use of this name to some of the specimens upon which DUMÉRIEL & BIBRON had based their description of this species, and which were considered by them to constitute a particular variety, "Variété D", of this species.

While SMITH (1963) and HUBBS (in ANONYMOUS, 1964) are certainly correct in stating that a specific name, associated with a given species, should not be credited to an author to whom this given species was unknown, it may be regretted that, when voting on the Opinion 713 (see ANONYMOUS, 1964), the Commission was not proposed as a third alternative in the Part 2 of the vote to validate the name *Rana fasciata* as of DUMÉRIEL & BIBRON (1841) and to designate for this nominal species, rather than a neotype, a lectotype, chosen among the still extant specimens on which DUMÉRIEL & BIBRON (1841) had based their description of *Rana fasciata*. For this purpose, the specimen No. 396 in the Paris Museum collections, an adult female collected by DELALANDE in the Cape region, which belongs to DUMÉRIEL & BIBRON's "Variété D" and which is a typical *Rana fasciata*, would have been available. If this had been done, *Rana fasciata* would be the type-species of *Strongylopus* by subsequent monotypy but, unless changes are brought to the Opinion 713, it cannot be the case.

(6) FITZINGER (1843 : 31) mentioned "*Strongyl. fasciatus* Tschud" as type-species of *Strongylopus*, and GÜNTHER (1859 : 20) quoted "*Strongylopus fasciatus*, Tschudi" in the synonymy of "*Rana fasciata*, Boie". Both these authors refer to a specific name, "*fasciatus* Tschudi" (= *fasciata* Burchell) which is not available as having been suppressed by the Opi-

nion 713, and therefore cannot be construed as having designated a type-species for *Strongylopus* or as having included a nominal species in this genus.

(7) The first author to have associated available specific names to *Strongylopus* is FITZINGER (1860 : 414), who wrote :

<i>Strongylopus Delalandii</i> Fitz. (<i>Rana Delalandii</i> Dum. Bibr.)	Cap.
<i>Strongylopus fasciatus</i> Tschudi (<i>Rana fasciata</i> Boie. - <i>Rana fasciata</i> Dum. Bibr.)	Cap.
<i>Strongylopus oxyrhynchus</i> Fitz. (<i>Rana oxyrhynchus</i> Sundevall)	Cap."

The first of these three names, *Rana delalandii* Duméril & Bibron, 1841 (nec *Pyxicephalus delalandii* Tschudi, 1838), is a senior synonym of *Rana angolensis* Bocage, 1866 (see e.g. POYNTON, 1964 : 103), and applies to a species of the subgenus or genus *Rana* s. str. The third name, *Rana oxyrhynchus* Smith, 1849, applies to a species of the subgenus or genus *Ptychadena* Boulenger, 1917 (see e.g. POYNTON, 1964 : 124). As for the second name, it refers again to the suppressed name *Rana fasciata* Burchell, 1824 and is not available, all the more that SMITH's *Rana fasciata* is not even mentioned as a synonym.

Therefore two nominal species only, *Rana delalandii* Duméril & Bibron, 1841 and *Rana oxyrhynchus* Smith, 1849 are to be considered as the species originally included in the genus *Strongylopus* Tschudi, 1838, and are the only two species eligible for type-fixation in this genus. The fact that later STEINDACHNER (1867 : 21-22) mentioned the names *Rana grayi* Smith, 1849 (as a synonym of "*Strongylopus grayi* Steind.") and *Rana fasciata* Smith, 1849 (as a synonym of "*Strongylopus fasciatus* Tschudi") is of no relevance here, since STEINDACHNER's work is largely posterior to FITZINGER's.

(8) None of the two species originally included in *Strongylopus* belongs to the group to which this name is currently applied. If *Rana delalandii* Duméril & Bibron, 1841 was chosen as the type-species of *Strongylopus*, this name would disappear as a subjective junior synonym of *Rana* Linnaeus, 1758 (see e.g. DUBOIS, 1987 : 42): this would have no other inconvenience than the need of coining a new name for the group of frogs including *Rana fasciata* Smith, 1849 and *Rana grayi* Smith, 1849. If, on the other hand, *Rana oxyrhynchus* Smith, 1849 was chosen as the type-species of *Strongylopus*, this latter name should replace *Ptychadena* Boulenger, 1917 as the valid name of another subgenus or genus of African ranids. This latter consequence would be most disturbing for the stability of nomenclature since the name *Ptychadena* has been regularly used since its creation.

(9) In order to preserve the stability of nomenclature, an action of the Commission is necessary. Two possible actions may be contemplated.

The first one, which I strongly advocate, would be to revert to the Opinion 713 and to make the name *Rana fasciata* available as of DUMÉRIEL & BIBRON (1841) ; the specimen No. 396 in the Paris Museum would be designated as lectotype of this species and the designation of a neotype for *Rana fasciata* made by PARKER & RIDE (1962) would be annulated ; following this action, the species *Rana fasciata* Duméril & Bibron, 1841 would automatically become the type-species of *Strongylopus* Tschudi, 1838 by subsequent monotypy.

If the Commission refused to change the wording of the Opinion 713, the action to take would be to suppress all previous designations of type-species for *Strongylopus* Tschudi, 1838, and to designate a type-species for this genus under the plenary powers. The choice

of this type-species could again be a matter of discussion : one could advocate the choice of *Rana grayi* Smith, 1849, since this species, although under the name "*Rana fasciata* Boie", is likely to be the one on which TSCHUDI (1838) had based his genus *Strongylopus* ; or one could advocate the choice of *Rana fasciata* Smith, 1849, in order to follow previous designations (e.g. FITZINGER, 1843, POYNTON, 1964 and FROST, 1985 mentioned "*Rana fasciata*" as the type-species of *Strongylopus*). Since *Rana grayi* and *Rana fasciata* are very closely related species (see e.g. POYNTON, 1964 and PASSMORE & CARRUTHERS, 1979), any genus containing one of them is bound to contain also the other one, and both possible designations would be strictly equivalent in terms of generic content.

(10) Accordingly I ask the International Commission on Zoological Nomenclature to use its plenary powers to settle the matters in this question, by choosing between the three following alternatives :

(a) Alternative A.

(1) to use its plenary powers to change some parts of the Opinion 713 ; the following new wordings are to replace those which appear in the original Opinion under the same numbers :

(1) (b) all other uses of the specific name *fasciata*, in the combination *Rana fasciata*, prior to that by DUMÉRIEL & BIBRON, 1841;

(2) (a) *fasciata* Dumériel & Bibron, 1841, as published in the binomen *Rana fasciata*, as interpreted by the specimen No. 396, in the Paris Museum collections, which is hereby designated as lectotype of this species (Name No. 2042);

(3) (b) *fasciata*, all other uses of, in the combination *Rana fasciata* prior to that by DUMÉRIEL & BIBRON, 1841 (as suppressed under the plenary powers in (1) (b) above) (Name No. 807);

(2) to change the wordings of the entry No. 2042 in the *Official List of Specific Names in Zoology* and of the entry No. 807 in the *Official Index of Rejected and Invalid Specific Names in Zoology* according to (1) above;

(3) to place the generic name *Strongylopus* Tschudi, 1838 (gender : masculine), type-species, by subsequent monotypy through DUMÉRIEL & BIBRON (1841), *Rana fasciata* Dumériel & Bibron, 1841, on the *Official List of Generic Names in Zoology*

(b) Alternative B.

(1) to use its plenary powers to suppress all previous fixations of type-species for *Strongylopus* Tschudi, 1838 and to designate *Rana grayi* Smith, 1849, as type-species of this genus;

(2) to place the generic name *Strongylopus* Tschudi, 1838 (gender : masculine), type-species, by designation above in (1), *Rana grayi* Smith, 1849, on the *Official List of Generic Names in Zoology*.

(c) Alternative C.

Same as Alternative B, but with *Rana fasciata* Smith, 1849 instead of *Rana grayi* Smith, 1849 designated as type-species of *Strongylopus* Tschudi, 1838.

RÉSUMÉ

Une analyse détaillée permet de montrer que, par suite de l'Opinion 713 (1964) de la Commission Internationale de Nomenclature Zoologique, le genre nominal *Strongylopus* Tschudi, 1838 ne possède pas à présent d'espèce-type, et que les désignations d'espèce-type actuellement possibles en fonction du Code entraîneraient des problèmes nomenclaturaux. En conséquence il est demandé à l'ICZN de faire usage de ses pleins pouvoirs pour désigner pour ce genre une espèce-type qui soit en accord avec l'usage actuel.

LITERATURE CITED

- ANONYMOUS, 1964. - Opinion 713. *Rana fasciata* Smith, 1849 (Amphibia): added to the official list with suppression of *Rana fasciata* Burchell, 1824, under the plenary powers. *Bull. zool. Nom.*, 21 : 352-354.
- BOIE, H., 1832 - *Briefe von Heinrich Boie ; geschrieben aus Ostindien und auf der Reise dahin*. Schleswig, Königlichen Taubstummen Institut : 1-154.
- BURCHELL, W. J., 1824. - *Travels in the interior of Southern Africa*. Vol. II. London, Longman & Co.: i-viii + 1-648, pl. 1-10.
- CHANNING, A., 1979. - Ecological and systematic relationships of *Rana* and *Strongylopus* in Southern Natal (Amphibia : Anura). *Ann. Natal Mus.* 23 : 797-831
- CHANNING, A. & VAN DIJK, D. E., 1976. - *A guide to the frogs of South West Africa*. Durban, University of Durban, Westville Press : 1-47.
- CLARKE, B. T., 1981 - Comparative osteology and evolutionary relationships in the African Raninae (Anura Ranidae). *Monit. zool. ital.*, (n. s.), 15, suppl. : 285-331.
- DUBOIS, A., 1981 a. - Deux noms d'espèces préoccupés dans le genre *Rana* (Amphibiens, Anoures). *Bull. Mus. nat. Hist. nat.*, (4), 2 (A) : 927-931.
- 1981 b - Liste des genres et sous-genres nominaux de Ranioidea (Amphibiens, Anoures) du monde, avec identification de leurs espèces-types : conséquences nomenclaturales. *Monit. zool. ital.*, (n. s.), 15, suppl. : 225-284.
- 1987. - *Miscellanea taxinomica batrachologica* (I). *Alytes*, 5 : 7-95
- DUELLMAN, W. E. & TRUEB, L., 1986 - *Biology of Amphibians*. New York, McGraw-Hill. 1-xix + 1-670
- DUMÉRIL, A.-M.-C. & BIBRON, G., 1841. - *Erpétologie générale ou histoire naturelle complète des Reptiles*. Tome 8 Paris, Librairie encyclopédique de Roret : i-vii + 1-792.
- FITZINGER, L., 1843. - *Systema Reptilium*. *Fasciculus primus. Amblyglossae*. Vindobonae, Braumüller & Seidel : 1-106 + i-ix.
- 1860 - Die Ausbeute der österreichischen Naturforscher an Säugethieren und Reptilien während der Weltumseglung Sr. Majestät Fregatte Novara. *Sitz-ber. kais. Akad. Wiss. Wien*, 42 : 383-416.
- FROST, D. R. (ed.), 1985. - *Amphibian species of the world*. Lawrence, Allen Press & Assoc. Syst. Coll. [i-iv] + i-v + 1-732.
- GÜNTHER, A., 1859. - *Catalogue of the Batrachia Sahentia in the collection of the British Museum*. London, Taylor & Francis : i-xvi + 1-160, pl. I-XII.
- PARKER, H. W. & RIDE, W. D. L., 1962. - *Rana fasciata* Burchell, 1824 (Amphibia), proposed designation of a neotype under the plenary powers. *Z. N. (S.)* 1253 *Bull. zool. Nom.*, 19 : 290-292
- PASSMORE, N. I. & CARRUTHERS, V. C., 1979. - *South African frogs*. Johannesburg, Witwatersrand University Press : i-xviii + 1-270.
- POYNTON, J. C., 1963 - Comment on the proposed use of the plenary powers to designate a neotype for *Rana fasciata* Burchell, 1824. *Z.N.(S.)* 1253. *Bull. zool. Nom.*, 20 : 255.
- 1964. - The Amphibia of Southern Africa : a faunal study. *Ann. Natal Mus.*, 17 : 1-334

- SMITH, A., 1849. – *Illustrations of the Zoology of South Africa Reptilia*. London, Smith, Elder & Co. pl. 1-78, pp. 1-28 (Appendix).
- SMITH, H. M., 1963 – Comment on the proposed use of the plenary powers to designate a neotype for *Rana fasciata* Burchell, 1824. Z.N.(S.) 1253. *Bull. zool. Nom.*, 20 : 254.
- STEINDACHNER, F., 1867 – *Reise der osterreichischen Fregatte Novara um die Erde in den Jahren 1857, 1858, 1859 unter den Befehlen des Commodore B von Willerstorff-Urbair. Zoologischer Theil. Bd I. Amphibien*. Wien, aus der Kaiserlich-Koniglichen Hof- und Staatsdruckerei. 1 70, pl. I-V
- TSCHUDI, J. J., 1838 – *Classification der Batrachier, mit Berücksichtigung der fossilen Thiere dieser Abtheilung der Reptilien*. Neuchâtel, Petitpierre : 1-102, pl. I-VI.
- VAN DIJK, D. E., 1966. – Systematic and field keys to the families, genera and described species of Southern African Anuran tadpoles. *Ann. Natal Mus.*, 18 : 231-286.
- 1971 – Anuran ecology in relation particularly to oviposition and development out of water. *Zool afr.*, 6 : 119-132.
- 1972 – The behaviour of Southern African Anuran tadpoles with particular reference to their ecology and related external morphological features. *Zool afr.*, 7 : 49-55.